

REVIEWS

A Local Flora of Virginia

The vegetation and floristics of Bull Run Mountain, Virginia. By H. A. Allard and E. C. Leonard. *Castanea* 8: 1-64. 7 fig. (fig. 1, map). 1943.

The botanical investigation of the present United States began with the work of John Banister in Virginia about the year 1678 and reached its earliest peak in Gronovius' *Flora Virginica* (1739-43), which was based on the collections by John Clayton, mainly in Tidewater Virginia, and is the most important single source for the names of North American plants in Linnaeus' *Species Plantarum* of 1753. With the publication of Gronovius' flora systematic botanical investigations in Virginia practically ceased until near the end of the nineteenth century.

Small and Vail's report on a summer's investigation in the mountains of southwestern Virginia appeared in 1893-94, Kearney's report on the Dismal Swamp region in 1901, Merrill's alphabetically arranged list of the plants of Staunton in 1919, E. W. Erlanson's list of the flora of the peninsula of Virginia in 1925, Merriman's popular flora of Richmond in 1930, and Fosberg and Walker's list of the plants of Shenandoah National Park in 1941. The Committee on Flora of the Virginia Academy of Sciences was organized in 1926, and has done considerable local work; and in 1933 Fernald began the fruitful series of explorations of the coastal plain of Virginia which have added so many species to the flora of the Gray's Manual range. Despite this recent activity, Virginia is still one of the half dozen states for which no state list has ever been written, and until the publication of the paper here noticed it did not possess a single local flora based on sufficiently intensive and long-continued field work to justify its being regarded as essentially complete.

The area covered by Allard and Leonard's paper includes about 33 square miles of the Piedmont region in Loudoun, Fauquier, and Prince William Counties in northeastern Virginia, at an elevation of about 600 to 1300 feet, descending at the north and south ends to about 250 ft. It consists for the most part of steep ridges capped with quartzite and sandstones (Cambrian), separated by narrow valleys drained by cold brooks, with conglomerate bluffs along Broad Run and red sandstones, shales, and conglomerates (Triassic) toward the eastern edge of the area. Slightly more than half the territory is wooded, the remainder being devoted to cultivation or pasturage. There are few streams and no ponds.

The original (climax) forest of the highlands was composed principally of chestnut oak (*Quercus montana*) and chestnut, with red oak, sour gum, tulip-

tree, and hickory. The practically extinct chestnut is being largely replaced as a major member of the association by hickory (*Carya tomentosa*). The most conspicuous trees of the deciduous phase of the successional forest are black locust (*Robinia pseudo-acacia*) and tulip poplar (*Liriodendron*), and of the coniferous phase scrub pine (*Pinus virginiana*) and red cedar (*Juniperus virginiana* var. *crebra*). The heath flora is dominated by *Kalmia latifolia*. The shrub understory and ground herbage of the forest vary considerably in different habitats and with differences in the developmental state of the forest.

The annotated list of vascular plants, including 934 species (789 native) and 75 varieties, forms, and hybrids, is based almost entirely on 8 years of field work by the senior author at all seasons of the year. It is followed by statistics and a comparison of the generic coefficient with that of various other areas in the United States. This coefficient is nearly the same as that for the District of Columbia. The largest families are Compositae (124 species including introductions), Gramineae (97), Cyperaceae (68), Rosaceae (52), and Leguminosae (49), these 5 families comprising 41.7% of the total flora.

Altogether the work is a decidedly worth-while addition to the local floras of the United States.

S. F. BLAKE

PLANT EXPLORATION AND INTRODUCTION
BUREAU OF PLANT INDUSTRY, SOILS, AND AGRICULTURAL ENGINEERING
BELTSVILLE, MARYLAND

FIELD TRIPS OF THE CLUB

APRIL 8. THE NEW YORK BOTANICAL GARDEN. The first trip of the 1944 season was a visit to the laboratory of Dr. William J. Robbins. Dr. Robbins explained that his was not a teaching laboratory nor a research laboratory in the ordinary sense but a laboratory for the investigation of certain vitamins and antibiotic substances. In both of these researches the unit of substance is very small, ordinarily the gamma or microgram. We were then shown a reproduction of the sort of situation which Dr. Fleming observed and which started the investigation ultimately leading to the discovery of penicillin. A pure culture of *Penicillium notatum* was shown. The behavior of various bacteria in its presence was pointed out. Other fungi being tested for antibiotic substances were displayed. Dr. Robbins demonstrated the method of titrating the medium for potency after growing an organism in it.

Mrs. Annette Hervey demonstrated the use of an automatic pipette in transferring cultures aseptically. Dr. Roberta Ma conducted the group through the cold room where organisms are cultured at the constant tem-